

## A NEW PLEISTOCENE GREBE FROM FLORIDA

PIERCE BRODKORB

THE Pleistocene record of the grebes includes nine of the world's 17 living species, but that epoch is currently represented by only one extinct species of the family Podicipedidae (Brodkorb, 1963b). Among the more than 5000 avian fossils thus far catalogued from Reddick, Florida, is a single carpometacarpus that represents a second, hitherto undescribed, extinct grebe from the Pleistocene.

Two living species of grebes also occur in Pleistocene deposits of Florida. The pied-billed grebe, *Podilymbus podiceps* (Linnaeus), has been recorded at Seminole Field in St. Petersburg and from the Itchtucknee River (Wetmore, 1931), at Haile (Brodkorb, 1953), Reddick (Brodkorb, 1957), Arredondo (Brodkorb, 1959), Rock Spring (Woolfenden, 1959), Vero Beach (Weigel, 1963), and the Santa Fe River (Brodkorb, 1963a). Previously unreported Pleistocene sites for this species include Jenny's Spring, Hornsby Spring, Lake Monroe, Catalina Lake in St. Petersburg, and Bradenton. The horned grebe, *Podiceps auritus* (Linnaeus), occurs at Seminole Field (Wetmore, 1931) and Rock Spring (Woolfenden, 1959), but the specimen attributed to this species from the Itchtucknee River (Wetmore, 1931) represents a large individual of *Podilymbus podiceps*.

The carpometacarpus of *Podiceps* differs from that of *Podilymbus* in several characters. In *Podiceps* the excavation proximal to the pisiform process occupies a large, elongated area that undercuts the pisiform process distally and extends proximally to the rim of the trochlea (in *Podilymbus* the excavation is short and round, and lies entirely proximal to the pisiform process and well distal to the rim of the trochlea). Metacarpal one is nearly parallel with the shaft of metacarpal two (in *Podilymbus* metacarpal one is rotated proximally toward the internal side). The outer trochlea is relatively short, so that the intertrochlear notch is weakly developed (in *Podilymbus* the outer trochlea is lengthened proximally to form a more pronounced intertrochlear notch). The pisiform process is strongly developed (in *Podilymbus* it is much less produced).

As the new species from Reddick agrees with *Podiceps* in the characters outlined above, it is described as

*Podiceps dixi*, new species

## Fig. 1

*Holotype*. Proximal portion of right carpometacarpus, Brod-korb no. 1113, at University of Florida. From Middle Pleistocene Reddick beds, at Dixie Lime Products Company mine, 1 mile south of Reddick, Marion County, Florida, in SW corner of NW  $\frac{1}{4}$ , section 14, Township 13 South, Range 21 East. Collected by H. James Gut, 1950.



Fig. 1. *Podiceps dixi*, n. sp. Holotype carpometacarpus (actual length, 8.6 mm.).

*Diagnosis*. Resembles living *Podiceps auritus* (Linnaeus) but somewhat larger; metacarpal one lengthened proximally nearly to level of proximal end of inner trochlea.

*Measurements*. Comparative measurements of the type, various living species of *Podiceps*, and the Pleistocene *P. parvus* (Shufeldt) are given below.

Height through process of metacarpal one and inner trochlea, 7.3 mm. (5.9 in *P. caspicus*; 6.7-7.0 in *P. auritus*; 9.3 in *P. cristatus*; 9.4 in *P. grisegena*). Height through process of metacarpal one and outer trochlea, 6.3 (5.0 in *P. caspicus*; 5.8-6.0 in *P. auritus*; 8.0 in *P. cristatus*; 8.4 in *P. grisegena*). Length of metacarpal one, 5.6 (4.4 in *P. caspicus*; 5.0-5.2 in *P. auritus*; 6.4 in *P. cristatus*; 7.0 in *P. parvus*; 7.0-7.8 in *P. grisegena*). Width through trochleae, 3.1 (2.9 in *P. caspicus*; 2.8-3.1 in *P. auritus*; 4.1 in *P. cristatus*; 4.3 in *P. grisegena*). Width of metacarpal two, 3.0 (1.8 in *P. caspicus*; 2.0-2.6 in *P. auritus*; 3.0 in *P. cristatus*; 3.1 in *P. parvus*; 3.0-3.3 in *P. grisegena*). Height through pollical facet and metacarpal two, 5.0 (3.6 in *P. caspicus*; 4.2-4.3 in *P. auritus*; 5.5 in *P. cristatus*; 5.8 in *P. grisegena*).

Compared with the extinct fossil species of *Podiceps*, the new species is larger than *P. pisanus* (Portis) from the Middle Pliocene

of Italy and *P. subparvus* (L. Miller and Bowman) from the Middle Pliocene of California. It is smaller than *P. oligoceanus* (Shufeldt) from the Middle Pleistocene of Oregon and older deposits in California.

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*Department of Biology, University of Florida, Gainesville, Florida.*